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Nurses' experience of individual, group-based, and professional autonomy

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ABSTRACT

Background: Autonomy and meaningful work (MW) have both been positively related to work satisfaction for nurses, however, the relationship between the various forms of autonomy and MW is unclear. Both autonomy and MW are complex concepts, and it is important to understand how different forms of autonomy, such as individual, professional, and perceived group-based autonomy, influence different dimensions of MW such as Expressing Full Potential and Service to Others. It is critical to fully understand the autonomy/MW relationship, because this knowledge can serve as a basis for developing effective and efficient interventions.

Purpose: The purpose of this paper is to better understand the relationship between autonomy and MW by examining the autonomy–MW framework.

Methods: Multilevel analyses using data from 510 nurses nested within four organizational divisions from three health care organizations were conducted. The Comprehensive Meaningful Works Scale was used to measure multiple dimensions of MW.

Findings: Our study demonstrated that individual and professional autonomy have significant positive relationships with six of the seven MW dimensions. Perceived group autonomy has significant positive, though weak, relationships with two dimensions of MW.

Discussion: Our results show that different forms of autonomy relate differently to the dimensions of MW and as such demonstrate that the relationship between autonomy and MW is not a simple input–output relationship. Our results show partial support for the autonomy–MW framework. Health care organizations that want to cultivate MW should not automatically implement autonomous teams but rather understand that a combination of autonomy practices could lead to MW.

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Within nursing literature, the value and contribution of autonomy to nurse satisfaction has been consistently demonstrated (Aiken, Clark, Sloane, Lake, & Cheney, 2008; Lake & Friese, 2006) and therefore, autonomy tends to be viewed as an important antecedent to meaningful work (MW; Chalofsky & Krishna, 2009; Rosso, Dekas, & Wrzesniewski, 2010; Bowie, 1998; Ciulla, 2012), which is the subjective experience of the existential significance of work[1] (Lips-Wiersma & Morris, 2009). Currently, health care organizations have been experimenting with different forms of autonomy in a range of practices from personal empowerment to self-managing teams, and it is unclear how these different forms of autonomy each contribute to MW in their own unique ways. In order to improve understanding of how different forms of autonomy are related to MW, Both-Nwabuwe, Lips-Wiersma, Beersma and Dijkstra proposed a theoretical framework for the autonomy–MW relationship. The model is specifically intended to capture the autonomy–MW relationship from a multidimensional perspective. In doing so, the model offers a fine-tuned understanding of which dimensions of MW are influenced by which types of autonomy. However, in order to be able to guide health care organizations to direct resources specifically toward those types of autonomy that are most likely to cultivate the MW experience (and its associated positive work outcomes such as job satisfaction), the theoretical framework requires empirical testing, and this was the goal of the current study. Specifically, we test the autonomy–MW framework, using data from nurses in home care and nursing homes.

Theoretical Framework

The autonomy–MW framework contains seven propositions that seek to explain how perceived individual, group, and professional autonomy, three forms of autonomy that can be distinguished in the current nursing work environment, each uniquely relate to different dimensions of MW. Individual autonomy refers to the individual freedom to control the work situation, such as pace of the work, work scheduling, or time spent on a work activity (Hackman & Oldham, 1976), whereas group autonomy refers to the group's freedom to control the work situation (Karhatsu, Ikonen, Kettunen, Fagerholm, & Abrahamsson, 2010). Professional autonomy refers to the freedom to act in accordance with one's professional knowledge (Kramer, Maguire, & Schmalenberg, 2006). The autonomy–MW framework views MW as a multidimensional construct. This means multiple dimensions of MW have to be fulfilled to experience MW. This distinguishes the framework from the Job Characteristics Theory (Hackman & Oldham, 1976), which views autonomy and MW as one-dimensional constructs.

In the autonomy-MW framework, MW is conceptualized using the Map of Meaning. The Map of Meaning provides a means to explain how organizational practices, such as autonomy, create MW in a dynamic interplay of multiple dimensions. The Map of Meaning identifies seven dimensions of MW, divided into three components: (1) core dimensions, (2) balancing tensions, and (3) inspiration-reality (see Figure 1). The four core dimensions of MW, the pathways through which individuals experience meaningfulness, are depicted in the center of Figure 1. The four core dimensions are "integrity with self," "unity with others," "service to others," and "expressing full potential." The second component of the model (i.e., "balancing tensions") refers to the need to, over time, experience, and balance all dimensions in order to experience the maximum of MW. The second component is depicted in Figure 1 along the *x* and *y* axis of the model. The *x* axis depicts the tension between self and others. The *y* axis depicts the tension between being and doing. The third component "inspiration and facing reality" refers to work that is hopeful and aligned to some form of ideal but also work that is grounded in reality (rather than being utopian). The third component is depicted in Figure 1 in the inner and outer circle of the model (Lips-Wiersma & Wright, 2012).

Theoretical Propositions

Individual Autonomy and MW

When nurses have freedom in scheduling the work and decision authority over the procedures used (i.e., individual autonomy), they have the opportunity to choose certain modes of acting over other ones. When these modes of acting are in according to their interests and values they will experience self-concordance (i.e., the degree to which people believe they are behaving consistently with their interests and values; Rosso, Dekas, & Wrzesniewski, 2010). Furthermore, as nurses have the freedom to schedule activities and set priorities, it promotes creativity and use of talents. In addition, as nurses have the freedom to schedule work and set priorities, they can match tasks to the specific needs of patients. The theoretical framework of autonomy–MW posits that when nurses experience freedom in scheduling the work and decision authority over procedures used, the dimensions "integrity with self," "expressing full potential," and "service to others" are fulfilled. In the current study we hypothesis, accordingly, that individual task-based autonomy is positively related to "integrity with self," "expressing full potential," and "service to others" (*Hypothesis 1*).

Individual autonomy is associated with individualism and focus on oneself (Veltman, 2016). As high individual

[1] "The subjective experience of existential significance" refers to the process of personally perceiving work as contributing to, or making sense of, one's reason for existence in the world (Both-Nwabuwe, Dijkstra & Beersma, 2017). Work, in this definition, is understood as paid tasks and activities on an occupational basis that are lawful and morally good as regards to their nature (Both-Nwabuwe et al., 2017).

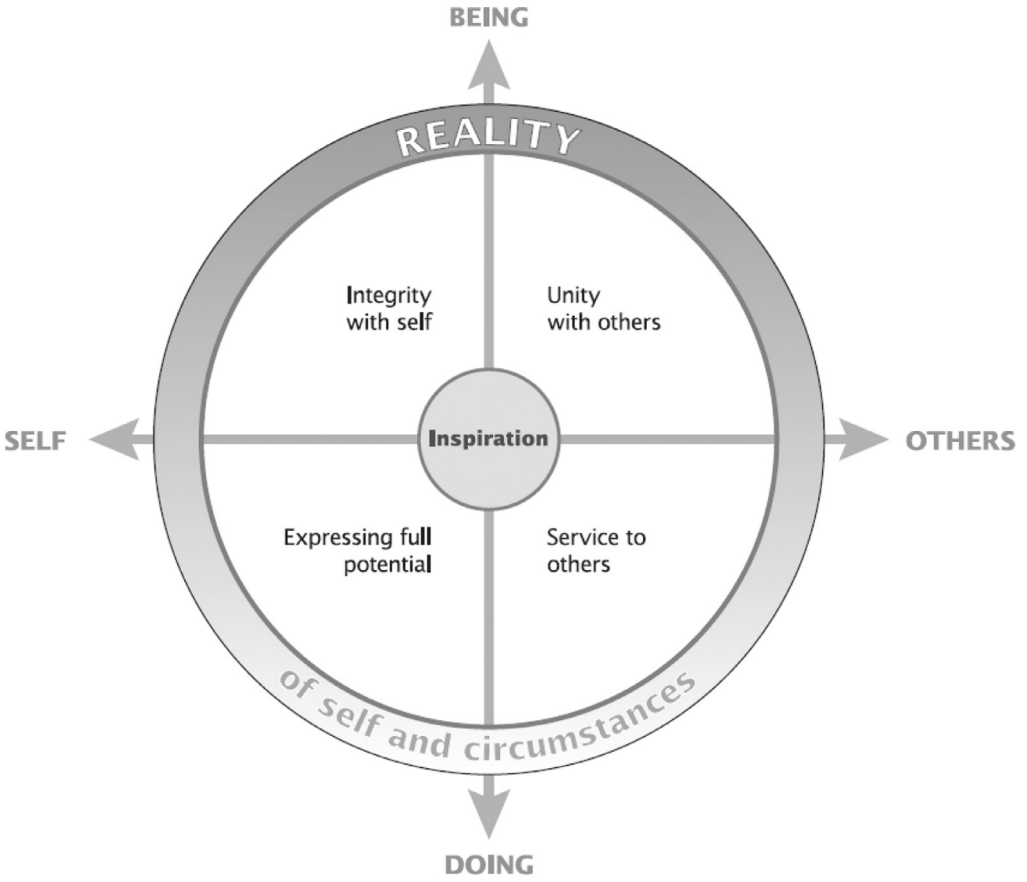

Figure 1 –Map of meaning (Lips-Wiersma & Wright, 2012).

autonomy induces employees to focus on themselves, such focus on self may not necessarily be balanced with a focus on the needs of the group and this creates a tension between meeting the needs of individual team members (i.e., self) as well as those of the group (i.e., others). Accordingly, the autonomy–MW framework proposes that individual freedom to schedule work and decide on procedure used induces nurses to focus on themselves rather than the group. Accordingly, in the current study, we hypothesize that individual autonomy is negatively related to "unity with others" and "balancing tensions" (*Hypothesis 2*).

Perceived Group Autonomy and MW

Group autonomy provides its team members the opportunity to take on extra responsibilities (Van Mierlo, Rutte, Vermunt, Kompier, & Doorewaard, 2006). In addition, group autonomy provides team members the opportunity to belong to a collective (Langfred, 2000). The theoretical framework of autonomy–MW posits, therefore, that the freedom of the group to schedule work and decide on procedures used, fulfil the dimensions "expressing full potential" and "unity with others." Accordingly, we hypothesize that perceived group autonomy is positively related to "expressing full potential" and "unity with others" (*Hypothesis 3*). Studies have, however, also reported negative effects of group autonomy mainly where the needs of the individual are in tension with those of the group (Barker, 1993; Minssen, 1994; Wright & Barker, 2000). We therefore hypothesize that perceived group autonomy is negatively related to "integrity with self" and "balancing tensions" *(Hypothesis 4)*.

Professional Autonomy and MW

Professional nurse autonomy relates to the scope of practice for which nurses are accountable, for example, acting in emergency situations to save a patient's life, triaging and coordination of care, and preventing harm or complications (Kramer & Schmalenberg, 2004). As nurses have the freedom to act on one's knowledge base without the need for permission of some authority, they can act on patients' behalf in accordance with their own values (Papathanassoglou et al., 2012). In addition, as nurses have the freedom to act on one's own professional expertise, they have the opportunity to fully use their skill set. Furthermore, team working may be most effective when the staff involved have professional autonomy as they feel their practice is not restricted (Poghosvan & Liu, 2016). Also, Rao, Kumar, and McHugh (2017) show that there is positive relationship between professional autonomy and quality of patient care. As quality of patient care improves, the experience of the impact of the work increases. The autonomy–MW framework posits,

therefore, that professional autonomy fulfils all four core dimensions of MW and, thus, has a positive relationship with "balancing tensions" as well. Accordingly we hypothesis that professional autonomy is positively related to "integrity with self," "expressing full potential," "unity with others," "serving others," and "balancing tensions" (*Hypothesis 5*).

Autonomy, Inspiration, and Facing Reality

Inspiration within the context of health care and in this research, is related to health care organizations' reason of existence. This reason is expressed in their organizational vision, which is essentially about the delivery of quality care to patients. As such, in order for inspiration to be experienced, there needs to be a clear linkage between the work nurses do and the vision of the organization. Autonomy provides individuals the freedom to choose for themselves to connect to the organization's vision. The autonomy–MW framework posits, therefore, all three forms of autonomy are positively related to "inspiration." As such, we hypothesize that individual autonomy, group autonomy, and professional autonomy are positively related to "inspiration" (*Hypothesis 6*).

"Facing reality" means coming to terms with an imperfect self in an imperfect world (Lips-Wiersma & Morris, 2009). Autonomy within the nursing context means that nurses themselves can discuss and make decisions about how to use available resources to provide good quality of care. The very nature of autonomy is that one does not depend on a leader, but rather is able to adjust goals in light of reality. The autonomy–MW framework posits that all three forms of autonomy are positively related to "Facing reality." As such, we hypothesize that individual autonomy, perceived group autonomy, and professional autonomy are positively related to "Facing reality" (*Hypothesis 7*).

Method

Respondents and Data Collection

The present study involved health care workers working in four organizational units (home care or elderly care) from three health care organizations in the Netherlands. This study was part of a larger study on sustainable employability of nurses.[2] All health care workers working in the selected organizational units received a questionnaire.

Of the 559 individuals who filled in the questionnaire, for 14 respondents, two or more study variables were missing values and 35 respondents had other occupations than nurses (e.g., hostess, occupational therapist, intern, and students). Since the sample was large enough and the pattern of missing values seem to be completely random, case deletion was therefore considered acceptable (Acock, 2005). We therefore removed the aforementioned respondents from the sample. Thus, the final sample consisted of 510 employees. Missing values on the control variables of working hours, occupational years, and age were replaced by the means (working hours, $N = 1$; occupational years $N = 8$, age $N = 4$; Roth, 1994). The respondents' age ranged from 17 to 69 years (M = 47.1, SD = 11.6). The majority of respondents were female (93%). Sixteen percent had completed high school, 52% had completed college, 27% had a bachelor degree, and 1% had a master degree. Job descriptions varied from nurse assistants (4.7%, n = 24), care worker (14.3%, n = 73), personal care worker (5,7%, $n = 29$), practical nurse (36.7%, $n = 187$), second-level registered nurse (16.9%, n = 86) to first-level registered nurse (21.8%, $n = 111$). On average, respondents worked 27 h per week (SD = 6.5), and the number of years respondents worked for the organization in which they were currently employed ranged from 0 to 45 years (M = 11.3, SD = 9.8).

Three university students distributed the questionnaires. In three organizational units, respondents received an online questionnaire, in one organization, paper questionnaires were distributed. To stimulate employees to respond, we used the chance to win a gift card of 25 euro as an incentive. In addition, several reminders were sent by mail. The questionnaire had two parts. The first part addressed demographic characteristics: age, gender, number of years nursing experience, educational level, and working hours. The second part included scales on MW and autonomy.

Measures

Individual autonomy was measured with the "work task-based autonomy" scale from the Dutch Questionnaire on the Experience and Evaluation of Work. Previous research established the psychometric quality of this instrument (Van Veldhoven, de Jonge, Broersen, Kompier, & Meijman, 2002). The scale included 11 items, asking respondents to indicate the extent to which they could control their work situation, for example, "can you influence your work pace?". Items were answered on a five-point scale, ranging from 1 ("never") to 5 ("all the time"). Cronbach's alpha for this scale was $\alpha = 0.94$.

Group autonomy as perceived by the individual group members was measured with an adapted version of the Dutch Questionnaire on the Experience and Evaluation of Work. Following Van Mierlo, Rutte, Seinen, and Kompier (2001), we replaced the "you" in the original items with "your team" in the team items, for example, "can your team influence its work pace?". Cronbach's alpha for this scale was $\alpha = 0.92$.

Professional autonomy was measured with four items of the practice of clinical autonomy scale (Brouwer, Kaljouw, Kramer, Schmalenberg, & Achterberg, 2014).

[2] as part of this larger study we assessed work orientation, capabilities and job crafting. Data related to these variables will be discussed in the doctoral thesis of the first author.

The original scale contains 11 items. Previous research indicated that the original scale had an acceptable Cronbach Alpha of 0.70, but contained two to three factors (Brouwer et al., 2014; Brouwer, Kaljouw, Schoonhoven, & Achterberg, 2017). The selected four items measure clinical autonomy in terms of perceived limited freedom to make care-related decisions. Items relate to limited freedom, in the sense that one knows what to do and wanted to do it but did not feel free to act until the action of some authority was obtained. These items fit our definition of professional autonomy – the freedom to act in accordance with one's professional knowledge base – best (but in reversed form). The other items were concerned with the perceived support of the management for professional autonomy. The four items we measured were: (1) autonomy is risky – nurses fear getting into trouble; (2) must get permission before independent or interdependent decisions; (3) bureaucratic rules inhibit independent decisions; and (4) must do things against better judgment. Items were answered on a five-point scale, ranging from 1 ("never") to 5 ("all the time"). The score was reversed coded to measure freedom instead of limited freedom. Cronbach's alpha for this scale was $\alpha = 0.71$.

MW was measured by 28-item using the Comprehensive Meaningful Work Scale, developed and validated by Lips-Wiersma and Wright (2012). The items were also rated on a Likert scale varying from 1 "strongly disagree" to 5 "strongly agree." An example item is "What we do is worthwhile." We used the seven dimensions of the scale. The Cronbach's alpha were for integrity with self $\alpha = 0.74$, unity with others $\alpha = 0.90$, service to others $\alpha = 0.82$; expressing full potential $\alpha = 0.78$, facing reality $\alpha = 0.53$, inspiration $\alpha = 0.84$, balancing tensions $\alpha = 0.81$.

The original MW scale has a five-point response scale. The original three autonomy scales have four point response scale. Leung (2011), in his study on the differences among 4-, 5-, 6-, and 11-point Likert scales, found no differences among these scales in spite of some (the uneven scales) having a neutral point whereas others did not. Chyung, Roberts, Swanson, and Hankinson (2017), on the other hand, recommends the use of a midpoint on the Likert Scale if respondents are familiar with the topic and should be allowed to express a neutral opinion. In our study, we expected the respondents to be familiar with the study topics and have opinions or feelings about it. Therefore, a five-point Likert scale with a midpoint was perceived to be more suitable than a four-point Likert scale. Thus, we adapted the original four-point response scales for the three forms of autonomy scales to five-point response scales. All instruments were translated into Dutch. Linguistic validation of the final questionnaire encompassed forward–backward translation and evaluations of items by a small focus group.

Data Analysis and Preliminary Analysis

Our data had a hierarchical structure with employees nested in teams. Statistically, data with these characteristics are described as nonindependent; as employees are members of groups, common group membership could explain variance, and therefore, multilevel analyses are recommended (Klein & Kozlowski, 2000). In order to capture the potential group-level random effect in the intercepts and avoid potential bias in the estimated standard error, we established whether there was sufficient between-group variance to warrant the use of multilevel analyses. Following Muthén (1994), we used the intraclass correlation coefficient (ICC1) to determine group influence. We computed the ICCs of the dimensions of MW and the three forms of autonomy according to the procedure suggested by Hofmann (1997). The ICC1 indicates the proportion of variability at the individual level that can be attributed to group membership. The ICC(1) index indicated that 16% of the variance in "integrity with self," 4% of the variance in "expressing full potential," 17% of the variance in "unity with others," 13% of the variances in "services to others," 13% of the variance in "balancing tensions," 7% of the variance in "inspiration," 2% of the variance in "facing reality," 31% of the variance in "group autonomy," 9% of the variance in "individual autonomy," and 25% of the variance in "professional autonomy" occurred between teams. Multilevel modelling may provide few benefits when ICCs are less than 5% (Dyer, Hanges, & Hall, 2005). Although the ICC's of "expressing full potential" and "facing reality" were below the 5%, since most of the ICC's where greater than 5%, we adopted hierarchical linear modelling for all analyses (HLM; also known as mixed model or multilevel random coefficient model). SPSS version 23 was used for HLM (IBM SPSS Statistics for Windows, Armonk, NY: IBM Corp.). AMOS version 24 was used for CFA. A p value of $<.05$ was considered statistically significant.

In this study, all constructs were conceptualized and measured at the individual level as we were interested in how individual experiences of three types of autonomy were related to individual experiences of MW. Although others studies (for example, Van Mierlo et al., 2006) consider group autonomy to be a team level construct, studies show that the experience of group autonomy may vary within groups, as it is possible that an informal group leader makes the decisions for the team and as a result not every individual group member experiences the same level of group autonomy (Karhatsu et al., 2010; Langfred & Rockmann, 2016). In this study, we focused on group autonomy as perceived by the individual group members and therefore did not aggregate the individual perceptions. The ICC (1) score of only 31% of the variance group autonomy provides further empirical support for this position.

Findings

Descriptive Statistics

Table 1 reports the means, standard deviations, zero-order correlations for the main variables in the study and scale reliability statistics. Relationships and significance tests associated with these variables should be viewed with caution until properly modelled in the HLM analyses, because the correlation table does not account for the fact that individual-level relationships might also be affected by the nonindependent nature of the data (Bliese, 2000).

Confirmatory Factor Analysis

Because the three autonomy variables were significantly highly correlated (see Table 1), prior to testing our hypotheses, we verified whether respondents differentiated between perceived group, individual, and professional autonomy by using confirmatory factor analysis (CFA) in AMOS 24. If perceived group, individual and professional autonomy are distinct constructs, a three-factor model (i.e., perceived group autonomy, individual autonomy, and professional autonomy) would fit our data better than a one-factor model (i.e., where all autonomy indicators were combined into one factor). Following Van Mierlo et al. (2006), we allowed covariation between the first item for perceived group autonomy and the first item for individual autonomy, between the second items of both scales, and so on. The corresponding items for group and individual autonomy were very similar, presenting a strong theoretical ground for allowing covariance between the error terms of corresponding items (Van Mierlo et al., 2006). The CFA results for the three-factor model demonstrated an acceptable model fit of the data, X^2 (285) = 1008.17, $p < .01$, comparative fit index = 0.91, root mean square error of approximation = 0.07, compared to the one-factor X^2 (288) = 2307.86, $p < .01$, comparative fit index = 0.75, RMSEA = 0.12. The correlation between the latent factors provides an additional indication of discriminant validity. If this correlation exceeds 0.85, constructs cannot be distinguished in a meaningful way (Kenny, 2014). The correlation between the latent factors perceived group autonomy and individual autonomy was 0.33, group autonomy and professional autonomy was 0.20, and between individual autonomy and professional autonomy 0.20, indicating satisfactory discriminant validity. The overall results of the CFA suggested that respondents were able to distinguish the three types of autonomy.

Hypotheses Testing

Hierarchical linear models were estimated with the independent variables (group-, individual-, and professional autonomy) relating to each of the seven dimensions of MW ("integrity with self," "expressing full potential," "unity with others," "service to others," "balancing tensions," "inspiration," "facing reality") in turn and are reported in Table 2. In our analyses, we controlled for the effects of gender, age, occupation, occupational years, working hours, educational level, and organization.

As shown in Table 2, we found partial support for Hypothesis 1, which stated that individual autonomy is positively related to "integrity with self," "expressing full potential," and "service to others." Individual autonomy is only significantly positively related to "expressing full potential" ($b = 0.19$, $p < .05$) and "service to others" ($b = 0.09$, $p < .05$). Hypothesis 2, which posited that individual autonomy is negatively related to "unity with others" and "balancing tensions," was not supported. Individual autonomy was significantly positively related to "unity with others" ($b = 0.15$, $p < .01$) and "balancing tensions" ($b = 0.23$, $p < .01$). Hypothesis 3, which stipulated that perceived group autonomy is positively related to "expressing full potential," "unity with others," and "services to others," was partially supported. Perceived group autonomy was only significantly positively related to "unity with others" ($b = 0.11$, $p < .05$). Hypothesis 4 stipulated that perceived group autonomy is negatively related to "integrity with self" and "balancing tension." As Table 2 indicates, this hypothesis was not supported as there were no significant relationships between perceived group autonomy and "integrity with self" and "balancing tensions." Hypothesis 5 stated that professional autonomy is positively related to "integrity with self," "expressing full potential," "unity with others," "serving others," and "balancing tensions." The hypothesis was fully supported. Professional autonomy relates significantly and positively to "integrity with self" ($b = 0.31$, $p < .01$), "expressing full potential" ($b = 0.16$, $p < .01$), "unity with others" ($b = 0.16$, $p < .01$), "serving others" ($b = 0.14$, $p < .01$) and "balancing tensions" ($b = 0.17$, $p < .01$). Hypothesis 6, which stated that all three forms of autonomy would be positively related to "inspiration," was partially supported. Individual autonomy positively relates to "inspiration" ($b = 0.20$, $p < .01$), as well as professional autonomy ($b = 0.16$, $p < .01$). There is no significant relationship between perceived group autonomy and "inspiration." Finally, Hypothesis 7, which stated that all three forms of autonomy are positively related to facing reality was partially supported. Perceived group autonomy relates positively to "facing reality" ($b = 0.14$, $p < .01$) as well as individual autonomy ($b = 0.11$, $p < .05$). There is no significant relationship between professional autonomy and "facing reality." The above findings are summarized in Figure 2, showing that individual and professional autonomy have more significant and positive relationships with MW dimensions than perceived group autonomy.

To make sure that our results were robust (see Spector and Brannick, 2011 for a discussion of potential

Table 1 – Correlations Between Variables, Descriptive Statistics, and Reliability Coefficients

	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Control variables																			
1 Age (years)	47.12	11.64	(-)																
2 Gender	1.93	0.26	−0.01	(-)															
3 Educational level	4.11	1.07	−0.15†	0.02	(-)														
4 Occupation	2.80	1.36	0.15†	−0.07	−0.48†	(-)													
5 Occupational years	11.33	9.84	0.41†	−0.00	−0.18†	0.06	(-)												
6 Work hours	27.04	6.53	−0.03	−0.10*	−0.01	0.01	−0.03	(-)											
7 Organization	1.99	1.05	−0.06	−0.10*	−0.13†	0.28†	−0.03	0.10*	(-)										
Study variables																			
8 Perceived Group autonomy	3.55	0.76	0.04	−0.01	0.20†	−0.21†	0.00	−0.12†	−0.12†	(0.92)									
9 Individual autonomy	3.40	0.82	−0.09*	−0.01	0.23†	−0.21†	−0.05	0.11*	0.02	0.68†	(0.94)								
10 Clinical autonomy	3.77	0.68	0.02	0.07	0.18†	−0.30†	−0.03	−0.05	−0.15†	0.48†	0.44†	(0.71)							
11 Integrity with self	4.05	0.77	0.09*	0.01	0.06	−0.17†	0.00	−0.13†	−0.13†	0.35†	0.29†	0.43†	(0.74)						
12 Expressing full potential	3.75	0.57	−0.02	−0.02	0.10*	−0.14†	−0.04	0.08	−0.05	0.38†	0.43†	0.38†	0.23†	(0.78)					
13 Unity with others	4.04	0.58	0.06	0.04	0.07	−0.10*	−0.00	−0.06	−0.05	0.41†	0.39†	0.38†	0.38†	0.55†	(0.90)				
14 Serving others	4.31	0.52	0.08	0.09	0.09	−0.12†	0.03	−0.04	−0.10*	0.34†	0.29†	0.34†	0.34†	0.58†	0.53†	(0.82)			
15 Balance	3.47	0.68	0.06	0.00	−0.00	0.02	−0.05	−0.11*	−0.03	0.40†	0.37†	0.34†	0.34†	0.42†	0.47†	0.36†	(0.81)		
16 Inspiration	3.60	0.65	0.07	0.08	0.05	−0.08	−0.03	−0.07	−0.02	0.38†	0.37†	0.36†	0.33†	0.60†	0.49†	0.48†	0.58†	(0.84)	
17 Reality	3.66	0.57	−0.02	0.07	0.01	−0.06	−0.02	−0.00	−0.09*	0.28†	0.26†	0.16†	0.20†	0.32†	0.36†	0.29†	0.28†	0.33†	(0.53)

Notes. $N = 510$.

* Correlation is significant at the 0.05 level (2-tailed).

† Correlation is significant at the 0.01 level (2-tailed).

Table 2 – Hierarchical Linear Modelling Results

	Integrity With Self		Expressing Full Potential		Unity With Others		Serving Others		Balance		Inspiration		Reality	
	B	SD	B	SD	B	SD	B	SD	B	SD	B	SD	B	SD
Intercept	2.27†	(0.40)	2.24†	(0.30)	2.81†	(0.30)	3.25†	(0.28)	2.12†	(0.35)	2.36†	(0.34)	2.68†	(0.32)
Control variables														
Age (years)	0.01*	(0.00)	−0.00	(0.00)	0.00	(0.00)	0.00	(0.00)	0.00	(0.00)	0.00	(0.00)	−0.00	(0.00)
Gender dummy	0.13	(0.11)	0.09	(0.08)	−0.02	(0.08)	−0.09	(0.08)	0.08	(0.10)	−0.15	(0.10)	−0.13	(0.09)
Educational level dummy 1	0.67	(0.70)	−0.22	(0.52)	−0.04	(0.52)	−0.54	(0.48)	−0.16	(0.60)	−0.06	(0.60)	0.57	(0.56)
Educational level dummy 2	0.26	(0.20)	0.14	(0.14)	0.09	(0.14)	−0.06	(0.14)	0.09	(0.17)	0.08	(0.17)	0.18	(0.16)
Educational level dummy 3	0.19	(0.22)	0.19	(0.16)	−0.07	(0.16)	−0.21	(0.15)	0.02	(0.19)	0.19	(0.19)	−0.02	(0.18)
Educational level dummy 4	0.27	(0.18)	0.11	(0.13)	0.04	(0.13)	−0.02	(0.12)	0.08	(0.15)	0.01	(0.15)	0.08	(0.14)
Educational level dummy 5	0.08	(0.18)	0.05	(0.13)	−0.07	(0.13)	−0.13	(0.12)	−0.01	(0.15)	−0.06	(0.15)	−0.10	(0.14)
Educational level dummy6	−0.69*	(0.30)	0.24	(0.23)	−0.07	(0.22)	0.00	(0.21)	0.32	(0.26)	0.03	(0.26)	0.07	(0.25)
Occupation dummy 1	0.05	(0.18)	−0.08	(0.13)	−0.18	(0.13)	−0.03	(0.12)	−0.34*	(0.15)	−0.09	(0.15)	0.07	(0.14)
Occupation dummy 2	0.06	(0.15)	−0.11	(0.11)	−0.05	(0.12)	0.06	(0.11)	−0.01	(0.13)	−0.04	(0.13)	−0.03	(0.13)
Occupation dummy 3	−0.11	(0.14)	−0.09	(0.11)	−0.19	(0.11)	0.05	(0.10)	−0.05	(0.12)	−0.08	(0.12)	−0.05	(0.12)
Occupation dummy 4	−0.11	(0.17)	−0.03	(0.12)	−0.09	(0.12)	0.06	(0.12)	0.14	(0.14)	0.09	(0.14)	0.01	(0.13)
Occupation dummy 5	−0.18	(0.20)	−0.05	(0.15)	−0.14	(0.15)	0.11	(0.14)	0.22	(0.17)	−0.24	(0.17)	−0.03	(0.16)
Occupational years	−0.00	(0.00)	−0.00	(0.00)	−0.00	(0.00)	0.00	(0.00)	−0.01	(0.00)	−0.00	(0.00)	−0.00	(0.00)
Work hours	−0.01*	(0.01)	0.01*	(0.00)	−0.00	(0.00)	0.00	(0.00)	−0.00	(0.00)	−0.00	(0.00)	0.00	(0.00)
Organization dummy 1	−0.12	(0.13)	−0.14	0.09	−0.20	(0.10)	−0.14	(0.09)	−0.23*	(0.11)	−0.27*	(0.11)	0.14	(0.10)
Organization dummy 2	−0.14	(0.16)	−0.16	0.12	−0.07	(0.13)	−0.11	(0.12)	−0.41†	(0.14)	−0.44†	(0.14)	0.22	(0.13)
Organization dummy 3	−0.34*	(0.15)	−0.29*	0.11	−0.32*	(0.12)	−0.32†	(0.11)	−0.44†	(0.14)	−0.32*	(0.13)	0.04	(0.12)
Hypothesized variables														
Individual autonomy	0.09	(0.05)	0.19†	(0.04)	0.15†	(0.04)	0.09*	(0.04)	0.23†	(0.05)	0.20†	(0.05)	0.11*	(0.04)
Perceived Group autonomy	0.10	(0.06)	0.05	(0.05)	0.11*	(0.05)	0.07	(0.04)	0.09	(0.05)	0.07	(0.05)	0.14†	(0.05)
Professional autonomy	0.31†	(0.06)	0.16†	(0.04)	0.16†	(0.04)	0.14†	(0.04)	0.17†	(0.05)	0.16†	(0.05)	0.01	(0.04)

N = 510 employees (level 1) in 107 teams (level 2). Unstandardized estimates (based on grand-mean-centering) are reported, with standard errors in parentheses.

* Correlation is significant at the 0.05 level (2-tailed).
† Correlation is significant at the 0.01 level (2-tailed).

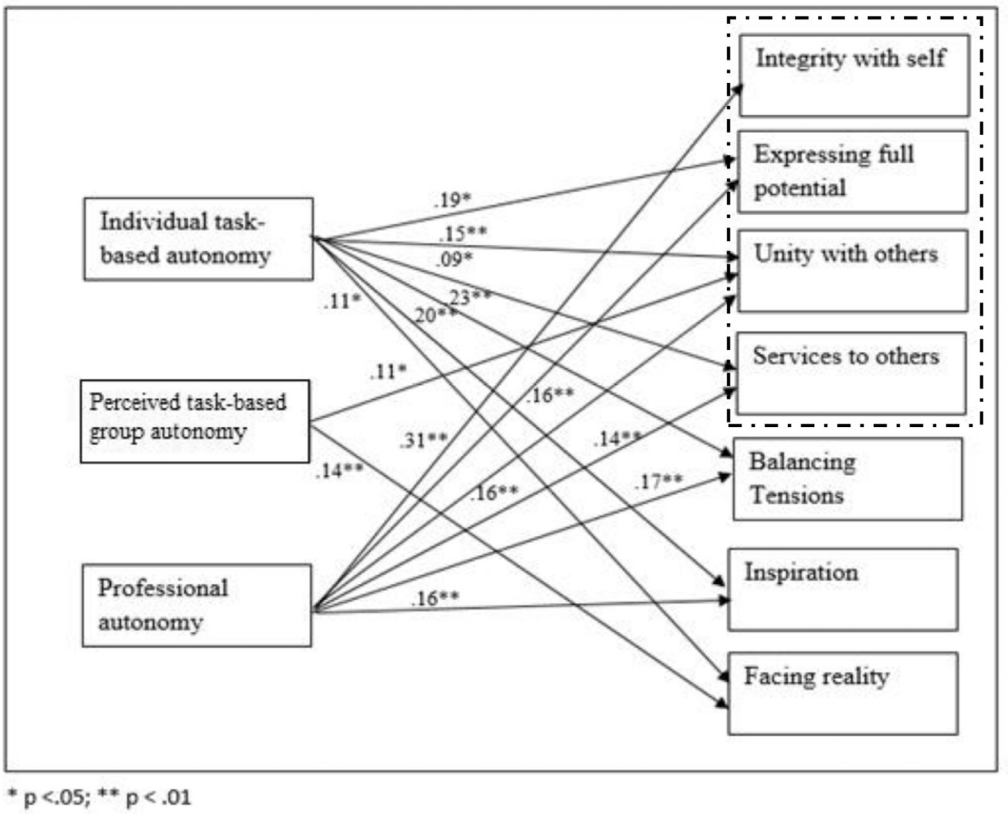

Figure 2 – Path diagram with unstandardized estimates (based on grand-mean-centering). Only the significant relationships are shown.

$^{*}p < .05$; $^{**}p < .01$.

distortion through the inclusion of control variables), we also performed the analyses without the control variables. Our results remained largely stable in terms of magnitude, direction, and significance regardless of whether control variables were included or excluded, except for perceived group autonomy in relation with "integrity with self," "services to others," "balancing tensions," and "inspiration."

Discussion and Recommendations

The purpose of the current study was to increase understanding of the autonomy–MW relationship by empirically examining the seven propositions of the autonomy–MW framework. We found that individual and professional autonomy have significant positive relationships with six of the seven MW dimensions (i.e., professional autonomy with all of the dimensions except with "facing reality"; individual autonomy with all of the dimensions except "integrity with self"). Perceived group autonomy has significant positive, though weak, relationships with two dimensions of MW: "unity with others" and "facing reality." We, therefore, found partial support for the majority of the hypotheses (one hypothesis received full support, five received partial support, and one hypothesis was rejected), on the whole providing partial support for the framework. In the following sections, we discuss the theoretical implications and close by highlighting practical implications, limitations and future directions.

Contributions to the Literature on Autonomy and MW

Our study makes several contributions to the literature. Our first contribution is that in using a multidimensional MW construct we offer a more fine-tuned understanding of the impact of autonomy on MW. While the original autonomy–MW framework proposes that professional autonomy would relate to MW in its entirety (as experienced through seven different dimensions) our study shows it is a combination of different types of autonomy that relate to the whole of MW. Our results show that different forms of autonomy are related to the dimensions of MW differently. It is therefore interesting to look at the differences of the autonomy measures on each of the dimensions of MW. For example, "integrity to self," that is the ability to be true to oneself, develop morally and be authentic, has as strong positive relationship with professional autonomy but not with individual autonomy. This makes sense as the ability to determine one's own schedules does not necessarily need an alignment of individual and organizational values. Professional autonomy, on the other hand, which includes using one's own judgement, clearly impacts on the extent to which one experiences integrity with self as a certain

measure of autonomy is required to be able to be responsible for one's actions (Yeoman, 2014). Whereas "facing reality" has a positive relationship to individual autonomy and perceived group autonomy but was not the case for professional autonomy. This too makes sense as individually or as group, it is the act of planning and scheduling that makes one face the (limited) resources or other constraining realities. In addition, our results show that perceived group autonomy has few positive relationships with any MW dimension, but it does strengthen "unity with others." An explanation for the few relationships between perceived group autonomy and MW dimensions can be found in research on group autonomy and psychological well-being, that found that group autonomy is positively related to psychological individual well-being but this relationship is mediated by individual autonomy, individual task variety, individual workload, and social support (Van Mierlo et al., 2001; Van Mierlo, Rutte, Vermunt, Kompier, & Doorewaard, 2007). In addition, Van Mierlo et al. (2006) found that – in a study on the group-individual autonomy relationship within hospitals – certain conditions moderated the relationships between teams' and individuals' autonomy (Van Mierlo et al., 2006). Thus, group autonomy does not directly influence most of the dimensions of MW but rather seems to works through mediated and moderated relationship related to individual autonomy, which was also indicated by the outcome of the robustness check we performed. Without control variables we found significant and positive relationships between perceived group autonomy and "integrity with self," "service to others," "balancing tensions," and "inspiration." Although we found no positive or negative relationships between perceived group autonomy and dimensions of MW including the control variables, the mediated and moderated mechanisms suggest that group autonomy can have positive as well as indirect negative relationships with dimensions of MW. To test this assumption we conducted a post-hoc multilevel mediation analysis to assess if, for example, individual autonomy mediates the relationship between perceived group autonomy and "unity with others," after controlling for age, education, function, occupational years, working hours, and organization. We followed Van Mierlo et al. (2007) to conduct the multilevel mediation analysis using the common method. Perceived group autonomy, without the other forms of autonomy, had a significant effect on unity with others ($b = 0.28$, $p < .01$). Adding individual autonomy into the equation reduced this effect ($b = 0.14$, $p < .01$). A Sobel test confirmed the significance of the indirect path, $Z = 3.83$, $p = .01$. Our results suggest that perceived group autonomy is indeed (partially) related to unity with others through a relationship with individual autonomy. These findings highlight that multiple forms of autonomy, specifically individual and professional autonomy, are needed to affect multiple dimensions of MW in order to make up the MW experience.

Our second contribution is that we show it is important to take the hierarchical structure of the data (individuals in teams) into account when doing research on MW. It has been suggested that co-workers influence individuals' interpretations of the meaning of their work through an interpersonal sense-making process whereby employees draw cues about the meaning and value of their work from other persons in the workplace (through observations, conversations, etc.; Wrzesniewski, Dutton, & Debebe, 2003). As employees increasingly work in teams, team membership of any kind can play a critical role in the experience of MW (i.e., employees who are members of the same team will frequently share important perceptions and behaviors). If not taken into account, an important basic assumption for many common statistical procedures is violated, because these procedures assume independence of observations. In some cases, this may lead to serious overestimation of parameters.

Implications for Practice

Our study has significant implications for practice. First of all, it helps health care organizations to prioritize autonomy practices that cultivate MW and thereby increase job satisfaction. By studying the relationship between three forms of autonomy, our research seems to indicate that, while autonomous teamwork seems to be gaining popularity and is generally assumed to increase workers' meaningfulness in work, health care organizations need to prioritize individual and professional autonomy over group autonomy. In other words, to achieve MW, it is very important to provide the individual with the freedom to determine one's own schedules and procedures for carrying out her or his tasks (individual autonomy) as well as put practices in place where individuals feel free to take risks, where they can get on with the job rather than getting permission for every single action, where they can use their own professional judgment and where they have to deal with bureaucratic interference as little as possible (professional autonomy). Our results demonstrate that perceived group autonomy only promoted limited experiences of meaningfulness at the individual employee level. Case research by Barker (1993) illustrates that group members in autonomous groups can put undue pressure on each other to get their tasks accomplished. This may have negative effects for perceived individual autonomy. This decreased individual autonomy could in turn lead to negative relationship between group autonomy and dimensions of MW in the sense that group restrictions may mean that other dimensions of MW, such as "expressing full potential" and "service to others," are not experienced as a result of group autonomy.

Thus, health care organizations that want to cultivate MW should not automatically implement autonomous teams but rather understand that a combination of autonomy practices supports MW.

Limitations and Future Directions

While this study has gone significantly beyond previous autonomy as well as MW studies in reach and complexity, the results and conclusions from this study need to be considered in light of a number of limitations, each of which offer directions for future research. First and foremost, the data gathered for this study were cross-sectional, which precludes conclusions regarding causality. Although we developed our hypotheses based on existing theory and evidence, future studies should test our hypotheses experimentally, which would allow for causal conclusions. Additionally, extending current results with qualitative data (based on interviews with nurses, for example) could further increase our understanding of how nurses experience the meaning of their work in relation to autonomy.

Furthermore, although MW has been related to heightened motivation, organizational commitment and job satisfaction (Steger, Dik, & Duffy, 2012) we did not measure any of these outcome variables in this study. To better understand outcomes, future studies on autonomy and MW in the field of nursing should include turnover and retention related variables.

Moreover, in this study data have been collected from home care and elderly care nursing teams, whose primary purpose is to deliver care. This could result in a positive effect of group autonomy on service to others. Our findings might have been different based on the groups' identified purpose. Future studies should examine this possible relationship.

In addition, technically speaking we studied individual perceptions of group autonomy, not actual group autonomy. The ICC(1) score of 31% of the variance group autonomy is provided empirical support for this position. Therefore, we feel, in line with Van Mierlo et al. (2001), that group autonomy as perceived by the individual group members represents a better approximation of actual amount of group autonomy than mere aggregation of perceptions. Future research, however, could investigate the relationship between group autonomy and MW by comparing high and low autonomy teams. This could provide answers to questions such as "Do members of teams with high levels of group autonomy feel more unity than their colleagues in teams with low levels of group autonomy?", or "under which conditions do members of high-autonomy teams experience MW?"

A final limitation of the study is the low Cronbach's alpha for the "facing reality" scale. The Cronbach's alpha of the original English version was higher and acceptable $\alpha = 0.79$ (Lips-Wiersma & Wright, 2012). Possibly, Dutch respondents used different definitions of reality which could have affected the way in which respondents answer the items. Alternatively, this may have to do with the sample being Dutch. A cultural stereotype about Dutch people is that they tend to be pragmatic. As such, there may be a restriction of range in our Dutch sample on the facing reality scale. Further research is necessary to test the reliability and validity of the translated version CMWS. Last but not least, further research is also required on cross-cultural differences in MW antecedents and outcomes.

Conclusion

In conclusion, the present study provides evidence that different forms of autonomy affect the dimensions of MW differently and found partial support for the autonomy–MW framework. Our results indicate that health care organizations that want to stimulate MW need to prioritize individual and professional autonomy over group autonomy. Health care organizations should therefor devote energy and resources to enhance individual and professional autonomy to affect multiple dimensions of MW through which workers can experience MW and its associated positive work outcomes.

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Author Contributions

JBN designed the study, carried out the study, analyzed the data, and drafted the manuscript. MLW, MD and BB have made substantial contributions to interpretation of data and have helped to draft the manuscript and revise it critically for important intellectual content. All authors have read and approved the final manuscript. All authors agreed to be accountable for all aspects of the work.

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Supplementary materials

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